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ON THE

CLIMATE

OF

DAVOS AM PLATZ,

SWITZERLAND,

IN THE

TREATMENT OF CONSUMPTION,

BY

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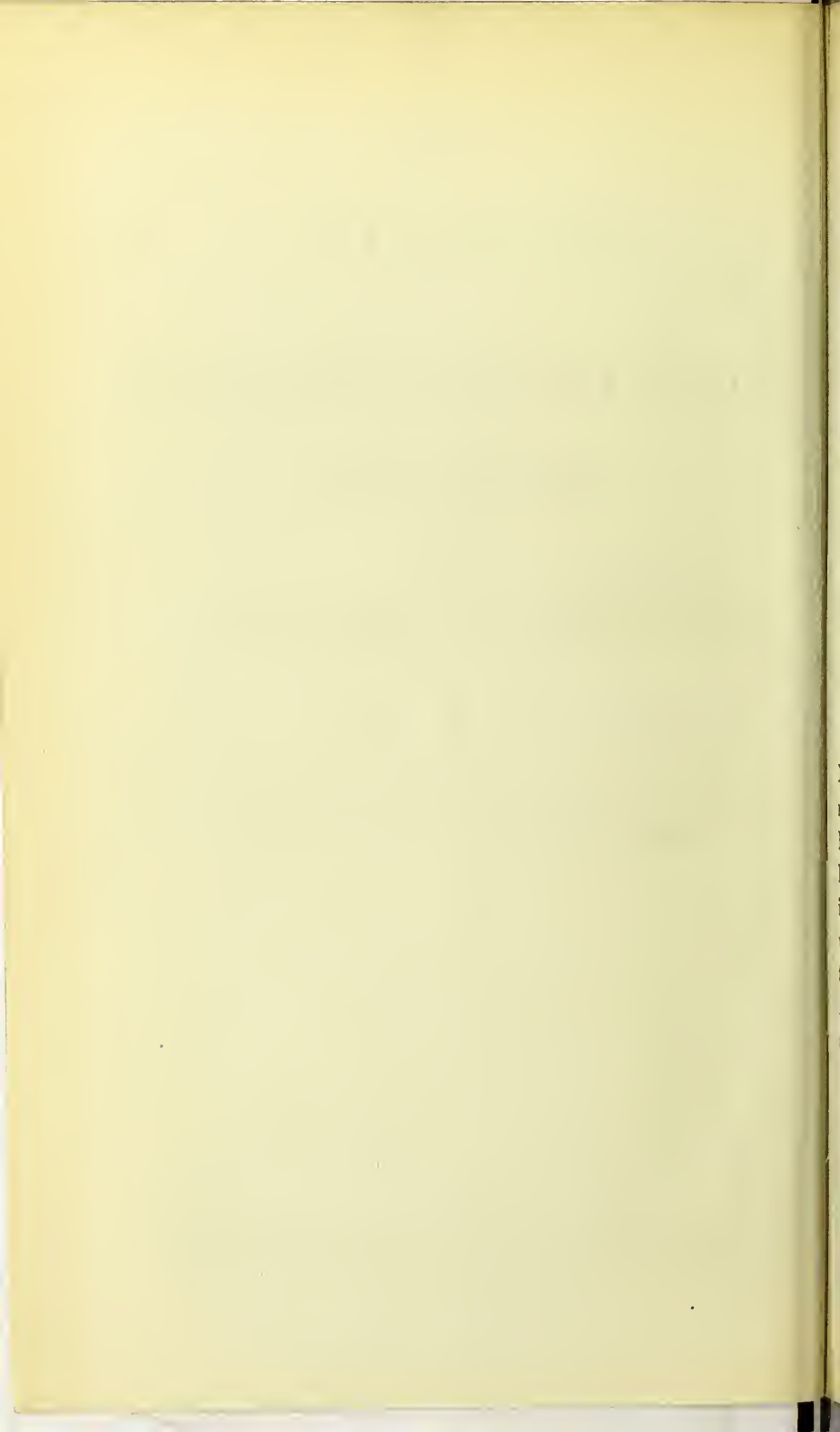


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1879.



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CLIMATE  
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DAVOS AM PLATZ.

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My first acquaintance with Davos was made at a medical meeting at Leamington in 1873, when Dr. Gibbs Blake, of Birmingham, alluded to the good results which he had seen to follow from phthisical patients wintering in that Alpine valley. Little, comparatively speaking, was generally known in England regarding it, until the publication of Dr. Clifford Allbutt's papers in the *Lancet* of 1877 and 1878, and of Mr. Symonds' interesting and elegantly-written essay in the *Fortnightly Review* for July last. The beneficial effects which have been witnessed from the residence of cases of pulmonary disease at Davos during the last few years are now beginning to make themselves felt, and much interest is attached to the observation of disease there.

During the past winter I have availed myself of the opportunity presented by the necessity for rest, to visit

Davos, to see it during winter, to observe the kind of life led by the invalids congregated there, to endeavour to obtain a clear idea of the climate of the locality, to note as far as possible the sort of cases most advantaged by living in such a climate, to ascertain the indications which should lead us to refrain from recommending a visit there, and to collect hints which might serve to guide us when advising it as a winter residence for an invalid.

While giving the result of my observations and enquiries, I would at the same time draw attention to two most interesting papers by Dr. Clifford Allbutt, of Leeds, in the *Lancet*, of October 20 and 27 for last year. Without being disposed to accept his pathological views of phthisis, I can endorse all that he has written regarding Davos. The account of the locality is clear and accurate, while to the value of the various hints he gives as likely to be useful to patients I can also testify.

Prior to the year 1862 Davos am Platz was for all practical purposes unknown. In that year Dr. Sprengler, who had practised in the village for a considerable period, published an article in the *Deutsche Klinik*, pointing out that his neighbours never suffered from phthisis while residing there; and, secondly, that those who, having left home for occupation in Italy, Germany, France, England, and elsewhere, had, while absent, contracted it, recovered on their return. This attracted the notice of a German physician, Dr. Unger, who at the time was suffering from phthisis. To Davos he went, together with a friend, Herr Richter, of Basle, who was similarly affected. There both regained health and strength, and there both still reside, the one in practice as a physician, and the other in business as a bookseller. From that time forwards phthisical patients from all parts of the world have resorted to Davos in ever increasing numbers, of whom a very large proportion have left the Alpine valley with a degree of health and

strength they had never expected to acquire ; while some, like Dr. Unger and Herr Richter, have made it their permanent residence.

Davos am Platz, the chief village of the district of Davos in the Graubunden, is situated in the centre of a valley about four or five miles long, running N.N.E. by S.S.W., and is 5,200 feet above the level of the sea. The nearest railway station is at Landquart, a small village a few miles from Ragaz. The distance of Davos from Landquart is 28 miles, a somewhat tedious diligence journey occupying nearly eight hours. On either side of the valley run mountain ranges, which, from a Swiss point of view, are of no great magnitude, but nevertheless look sufficiently well calculated to test the climbing powers of those who have passed their time in flat countries.

The climate, as I found it in November and December, on what is there called "a typical Davos day," requires almost to be felt to be credited. Snow lies  $1\frac{1}{2}$  and 2 feet deep over the entire valley, and its pine-covered mountain sides. At 9 o'clock the sun appears above the mountain tops casting a flood of golden light upon their snowy peaks. The sky is intensely blue, not a cloud is to be seen ; the air is fresh and cold, and yet, within an hour, the solar thermometer will in all likelihood stand at  $145^{\circ}$  to  $150^{\circ}$  Fahrenheit ; while, by that in the shade, from  $35^{\circ}$  to  $40^{\circ}$  are registered. All is now bright and warm. In walking overcoats are out of the question, and invalids who do not care for a walk, or a drive in a sledge, sit out in the verandah basking in the sun, inhaling the while a still, pure, warm, dry air. Such is the condition of the atmosphere until 3 o'clock in the afternoon, when the sun retires. The change in the temperature then is both sudden and rapid, so much so as to render it desirable for invalids to retire within doors for half-an-hour, and then to put on additional clothing before taking another stroll.

The air now becomes cold, and yet it is not a cold that makes one shiver, but one that stimulates to exertion, and it is a cold, moreover, that, with warm clothing, is in no way prejudicial to health. The nights are uniformly frosty, and as the winter advances, the thermometer has often registered a temperature of several degrees below zero. Such is a fair description of "a typical Davos day." During my stay, from the 12th November to the 10th of December, such days were by no means frequent. There were, I think, six of them. Snow fell at intervals of a few days, but rarely to an extent requiring anyone to remain within doors. The snow is light and dry, easily shaken off, and in no way an impediment to outdoor exercise. Rain fell on one day only during the month, and this was regarded as a most unusual occurrence. The south wind, or *föhn*, as it is termed, blew several times, on one occasion for three days in succession. Its influence upon all persons, whether invalid or healthy, is most depressing. It is felt immediately on rising in the morning, so much so as to enable one, after very little experience, to feel sure of its presence or absence before leaving one's room. Depression of spirits, languor, inability for exertion in any form, enfeebled appetite, together with an inexplicable sense of restlessness, constitute the effects of this wind upon the mind and body. It is when it is blowing that grumblers at their enforced isolation from the world of active, busy life, are in their most unpleasant moods. Nothing is right, they are no better, the cook has not done his duty, the stoves are all wrong, the rooms are too hot or too cold, the whole place is "stuffy," and so on. Observations of this kind are generally due to *föhn*.

*Föhn* is, in fact, the sirocco so frequently felt on the Riviera. Enthusiastic admirers of Davos are apt to refer to it somewhat slightly—thus, "*One Who Knows Davos Well*," writes: "The *föhn*—a Swiss name for the dreaded



sirocco of Italy—is far less felt here than in most similarly situated districts, as its ingress is happily impeded by a double and treble bulwark of mountains;” and Mr. Symonds (*Fortnightly Review*, July, 1878) says : “The most disagreeable winds, whether keen north-wester, or the relaxing south-wester, known by the dreaded name of *föhn*, are fairly excluded.” During my stay, we we must have had at least seven or eight days of *föhn*, and I think more, while during January it was the prevailing wind for fifteen days. This winter has been exceptional in the matter of climate, so I was told; but then one of Dr. Allbutt’s correspondents, whose letter appeared in the *Lancet* of last October, says that the winter of 1877-8 was exceptionally bad. I am afraid that it must be admitted that this depressing wind finds access to the valley every winter much more frequently than is desirable.

Fog and mist are not so entirely unknown in Davos as some have led us to suppose. The Land-Wasser runs throughout the entire length of the Valley, and on several evenings, frequently too in the morning, a cold, heavy mist hung over it. A slight thaw—said to be a most unusual circumstance in November—occurred during my visit, and then the air was loaded with cold moisture, giving one a faint idea of what a thaw would be in April!

Such features of the climate as these must not be lightly passed over. They must be recognised and provided against, and if they are, they will, I feel sure, not detract from the health-restoring properties of the air. It is when *föhn* is blowing, and a mist is hanging over the valley, that colds are taken, that slight congestions are set up in tender lungs, that the temperature rises and waste is once more in excess of repair. These are times when the invalids of Davos require to take a great deal more care of themselves than they appeared to me to be in the habit of doing.

The effects of a day or more of *föhn* rapidly pass away, when once a patient has become acclimatised. This acclimatisation process is one that is somewhat trying for the first week or two after arrival. The symptoms characterising it differ somewhat in different individuals. Generally they consist of depression of spirits, incapacity for exertion, restless, often sleepless nights, frequently diarrhœa, and some loss of appetite. They are, of course, aggravated should the *föhn* blow during this period. After a week or so they diminish, and presently altogether pass away; the invalid then begins to pick up flesh, to take exercise, and enjoy his food. To meet the contingencies of acclimatisation, rest is the principal remedy. Wrapped in shawls, the patient should content himself with sitting in the verandahs, walking but little. Great advantage, too, will be found in taking daily two or three glasses of the Veltliner wine—a refreshing wine of low alcoholic strength, brought to the district from the northern wine-growing valleys of Italy. Prepared to experience these symptoms, and being made fully aware that they will in a few days yield, and be followed by a sense of renewed vigour, a patient ought not to give way to despondency when they present themselves. Further, they are said to be less severely felt during the early part of the season, or at any rate to be less trying to the patient then. Hence invalids should be advised to go to Davos before the end of September. It is hardly desirable, especially when the character of the journey is considered, for any one to set out thither later than the middle or end of October. The best time is July or August. At the end of March, or commencement of April, the exodus begins. The snow melting rendering Davos as unsuitable for a weakened lung as it had been during the previous ten months desirable for it.

To facilitate the discussion of the climate and its effects upon health, I have been furnished by my friend Mr. Regi-



nald S. Gunnery, of St. John's College, Cambridge, with the following record of his meteorological observations during my stay there; and that it may be compared with the climate of a well-known English health resort for phthysical patients, Mr. E. E. Glyde, F.M.S., of Torquay, has kindly sent me similar observations, taken by himself, on the same days.

Mr. Gunnery's were taken at the Belvidere, at 9 a.m. They are as follows:—

| Date.   | Barometer. | SHADE TEMPERATURE. |      | In Sun. | Humidity<br>of the<br>Atmosphere. |
|---------|------------|--------------------|------|---------|-----------------------------------|
|         |            | Max.               | Min. | Max.    |                                   |
| Nov. 13 | 24.70      | 38.5               | 11.5 | 157.5   | 51.0                              |
| „ 14    | 24.49      | 40.5               | 24.5 | 148.5   | 100.0                             |
| „ 15    | 24.60      | 26.5               | 15.5 | 76.0    | 70.0                              |
| „ 16    | 24.69      | 36.0               | 14.0 | 150.0   | 75.0                              |
| „ 17    | 24.70      | 37.5               | 17.0 | 114.0   | 83.0                              |
| „ 18    | 24.78      | 36.0               | 9.0  | 150.5   | 78.0                              |
| „ 19    | 24.99      | 36.0               | 12.0 | 137.0   | 72.0                              |
| „ 20    | 25.03      | 37.0               | 18.0 | 129.5   | 95.5                              |
| „ 21    | 24.80      | 35.0               | 24.0 | 86.0    | 64.0                              |
| „ 22    | 24.90      | 40.0               | 25.0 | 81.0    | 88.0                              |
| „ 23    | 25.00      | 26.5               | 12.0 | 78.0    | 64.0                              |
| „ 24    | 25.00      | 39.0               | 11.5 | 140.0   | 90.0                              |
| „ 25    | 25.00      | 39.5               | 26.0 | 114.5   | 66.0                              |
| „ 26    | 24.85      | 45.0               | 37.0 | 137.0   | 84.0                              |
| „ 27    | 24.80      | 44.5               | 37.5 | 68.5    | 100.0                             |
| „ 28    | 24.66      | 44.0               | 36.0 | 120.0   | 100.0                             |
| „ 29    | 24.68      | 40.0               | 25.5 | 44.0    | 100.0                             |
| „ 30    | 24.75      | 33.5               | 22.0 | 95.0    | 49.5                              |
| Dec. 1  | 24.75      | 27.5               | 19.5 | 65.0    | 63.0                              |
| „ 2     | 24.68      | 24.0               | 9.0  | 66.0    | 48.0                              |
| „ 3     | 24.69      | 31.5               | 2.5  | 123.0   | 58.0                              |
| „ 4     | 24.70      | 22.5               | 3.0  | 101.0   | 84.0                              |
| „ 5     | 24.77      | 21.0               | 12.0 | 45.0    | 79.0                              |
| „ 6     | 24.80      | 27.0               | 14.0 | 46.0    | 86.0                              |
| „ 7     | 24.56      | 25.0               | 12.0 | 121.0   | 84.0                              |
| „ 8     | 24.39      | 18.5               | -1.0 | 70.0    | 26.0                              |
| „ 9     | 24.37      | 25.0               | 4.0  | 110.0   | 56.0                              |
| „ 10    | 24.63      | 17.0               | 10.0 | 58.5    | 33.0                              |
| „ 11    | 24.42      | 17.5               | -3.0 | 95.5    | 48.0                              |
| „ 12    | 24.52      | 22.0               | 6.0  | 38.5    | 68.0                              |

The following are those made by Mr. E. E. GLYDE, at Kirkham, Babbacombe, Torquay, 294 feet above mean sea level :—

| 1878.<br>Date. | At 9 A.M.,<br>LOCAL TIME.<br>Barometer<br>reduced to<br>32° sea level. | SHADE TEMPERATURE. |      | In Sun. | Humidity<br>of the<br>Atmosphere. |
|----------------|--|--------------------|------|---------|-----------------------------------|
|                |  | Max.               | Min. | Max.    |                                   |
| Nov. 13        | 29.512   | 45.6               | 36.1 | 99.3    | 86.0                              |
| „ 14           | 29.674   | 46.7               | 37.1 | 100.1   | 77.0                              |
| „ 15           | 29.475   | 43.8               | 36.6 | 59.0    | 84.0                              |
| „ 16           | 29.460   | 46.1               | 37.5 | 101.9   | 92.0                              |
| „ 17           | 29.670   | 48.9               | 38.3 | 102.2   | 77.0                              |
| „ 18           | 30.011   | 47.8               | 41.3 | 98.5    | 77.0                              |
| „ 19           | 30.409   | 46.6               | 37.9 | 93.2    | 88.0                              |
| „ 20           | 30.405   | 41.4               | 35.3 | 49.1    | 87.0                              |
| „ 21           | 30.173   | 39.0               | 35.4 | 46.1    | 91.5                              |
| „ 22           | 30.090   | 39.8               | 34.4 | 48.6    | 86.0                              |
| „ 23           | 29.973   | 45.7               | 39.2 | 59.1    | 77.0                              |
| „ 24           | 29.466   | 52.9               | 42.5 | 65.8    | 99.0                              |
| „ 25           | 29.410   | 51.4               | 41.9 | 58.1    | 94.0                              |
| „ 26           | 29.493   | 43.1               | 39.2 | 71.1    | 92.0                              |
| „ 27           | 29.468   | 41.7               | 37.4 | 78.3    | 83.0                              |
| „ 28           | 29.576   | 38.5               | 34.2 | 39.3    | 96.0                              |
| „ 29           | 30.033   | 43.0               | 32.0 | 88.2    | 77.0                              |
| „ 30           | 29.985   | 42.9               | 37.0 | 86.9    | 97.0                              |
| Dec. 1         | 29.852   | 45.7               | 36.1 | 85.2    | 96.0                              |
| „ 2            | 30.036   | 43.7               | 36.6 | 85.0    | 83.0                              |
| „ 3            | 30.133   | 38.1               | 34.2 | 48.3    | 83.0                              |
| „ 4            | 30.337   | 43.0               | 33.5 | 88.8    | 87.0                              |
| „ 5            | 30.193   | 43.9               | 30.2 | 78.1    | 93.0                              |
| „ 6            | 30.217   | 39.9               | 30.3 | 82.1    | 72.0                              |
| „ 7            | 29.722   | 41.9               | 33.2 | 87.4    | 88.0                              |
| „ 8            | 29.563   | 38.9               | 29.1 | 93.1    | 84.0                              |
| „ 9            | 29.714   | 39.9               | 26.8 | 85.9    | 85.0                              |
| „ 10           | 29.825   | 31.6               | 24.1 | 70.5    | 90.0                              |
| „ 11           | 29.929   | 32.4               | 20.6 | 74.0    | 92.0                              |
| „ 12           | 29.844   | 31.7               | 24.3 | 43.0    | 100.0                             |

The following *resumé* of these figures will perhaps enable the general reader to appreciate their meaning more readily.

The maximum temperature in the shade was in Davos from 40° to 45° on six days—the highest temperature registered being 45° on one day only; from 35° to 40° on nine days, from 30° to 35° on two, from 25° to 30° on

six, from  $20^{\circ}$  to  $25^{\circ}$  on four, and from  $15^{\circ}$  to  $20^{\circ}$  on three days—the lowest maximum being  $17^{\circ}.5$ .

In Torquay the maximum was between  $50^{\circ}$  and  $55^{\circ}$  on two occasions during the same period—the highest maximum being  $52^{\circ}.9$ ; between  $45^{\circ}$  and  $50^{\circ}$  eight times, from  $40^{\circ}$  to  $45^{\circ}$  ten days, from  $35^{\circ}$  to  $40^{\circ}$ , seven days, and from  $30^{\circ}$  to  $35^{\circ}$  three times—the lowest maximum registered being  $31^{\circ}.6$ .

In Davos the minimum was between  $35^{\circ}$  and  $40^{\circ}$  on three days—the highest minimum being  $37^{\circ}.5$ ; between  $25^{\circ}$  and  $30^{\circ}$  four times;  $20^{\circ}$  and  $25^{\circ}$ , twice; between  $15^{\circ}$  and  $20^{\circ}$  four times; between  $10^{\circ}$  and  $15^{\circ}$  on eight occasions; between  $5^{\circ}$  and  $10^{\circ}$  four times;  $1^{\circ}$  and  $5^{\circ}$  thrice, and below zero twice—the lowest being  $-3^{\circ}$ .

In Torquay the minimum was from  $40^{\circ}$  to  $45^{\circ}$  on three occasions—the highest being  $42^{\circ}.5$ ; from  $35^{\circ}$  to  $40^{\circ}$ , fourteen times; from  $30^{\circ}$  to  $35^{\circ}$ , eight times; from  $25^{\circ}$  to  $30^{\circ}$  twice; from  $20^{\circ}$  to  $25^{\circ}$  on three occasions—the lowest having been  $24^{\circ}$ .

In Davos the solar thermometer registered over  $150^{\circ}$  three times—the highest point reached being  $157^{\circ}.5$ ; it was from  $140^{\circ}$  to  $150^{\circ}$  twice; from  $130^{\circ}$  to  $140^{\circ}$  twice; from  $120^{\circ}$  to  $130^{\circ}$  four times; from  $110^{\circ}$  to  $120^{\circ}$  thrice; from  $100^{\circ}$  to  $110^{\circ}$  once; from  $90^{\circ}$  to  $100^{\circ}$  twice; from  $80^{\circ}$  to  $90^{\circ}$  twice; from  $70^{\circ}$  to  $80^{\circ}$  thrice; from  $60^{\circ}$  to  $70^{\circ}$  thrice; from  $50^{\circ}$  to  $60^{\circ}$  once; from  $40^{\circ}$  to  $50^{\circ}$  thrice; below  $40^{\circ}$  ( $38^{\circ}.5$ ) once.

At Torquay, the solar thermometer registered over  $100^{\circ}$  on three occasions, the highest being  $102^{\circ}.2$ ; from  $90^{\circ}$  to  $100^{\circ}$  four times; from  $80^{\circ}$  to  $90^{\circ}$  eight times; from  $70^{\circ}$  to  $80^{\circ}$  five times; from  $60^{\circ}$  to  $70^{\circ}$  once; from  $50^{\circ}$  to  $60^{\circ}$  thrice; from  $40^{\circ}$  to  $50^{\circ}$  five times; below  $40^{\circ}$  once ( $39^{\circ}.3$ ).

The average degree of humidity of the atmosphere during these thirty days was at Davos 68.7, and at Torquay 84.765.

The climate of Davos, a glance at these tables will show, is far from being of that equable character which has been generally supposed to be so highly advantageous in promoting the recovery of phthisical patients. At Davos, indeed, the changes of temperature, and even the variations in the degree of atmospheric humidity, are not only considerable, but frequent, and, at sunset, sudden. Yet, for all this, patients suffering from a disease more or less incurable in a mild and equable climate, one often generated in such a climate, and never in that of Davos, are there cured, and not only so, but with very slight precautions, are able to live out of doors, more or less of nearly every day, throughout the entire winter! The advantages of a mild and equable climate have been supposed to consist in the diminution of risk in contracting cold, and in so far in preventing the development of fresh inflammatory deposits, and of congestions. At Davos, however, it may, I think, be shown that circumstances are present, rendering such a patient, or indeed any one, less susceptible to contingencies of this kind, and hence exposure to variability of temperature is less felt there, so much less indeed as, with very ordinary precautions, to render a person practically proof against causes of catarrh.

The elevation of 5,200 feet above the sea level, diminishes, by fully five inches, the pressure of the atmosphere: What is the effect of this diminished pressure upon the body? It is, I apprehend, both local and general. Locally, it allows of an easier and more equable expansion of the chest walls, though, at the same time, it must not be forgotten that the removal of atmospheric pressure renders

the heart more excitable, more irritable; just as an increase of pressure, as in the compressed air bath, steadies and quiets its action. Increase of chest expansion power is of great importance when a portion of lung is inactive. It exerts a stimulating action upon the entire organ. Enabled to move more easily, it does so more regularly, more completely, and in so doing the muscular structures are strengthened, as they are in what are called *Lung Exercises*. Coughing is attended with less exertion, and therein one cause of hæmoptysis is diminished, while expectoration of effete matters is more easily accomplished. The influence of diminished atmospheric pressure upon the body generally will also be seen in increased disintegration and absorption of such morbid products as the infiltration of catarrhal pneumonia, and probably of the caseous matter into which such infiltration has, in more advanced cases, been converted. That such may be the case, seems warranted by the hypothesis put forth by Professor Tyndall, in a paper published some time back in the *Practitioner* (on which, unfortunately, I cannot lay my hand at present), in which he shows that diminished atmospheric pressure increases the mobility of the particles of oxygen, rendering the process of oxidation more rapid and more thorough. In this way, not only is nutrition more complete, and therefore effective, but morbid products become more readily broken up, and dispersed, and a healthy action set up where, as in a pneumonic cavity, healing is the chief *desideratum*.

Again, the amount of atmospheric humidity, though varying widely, is low even during a winter said to be so exceptional as that of 1878-9. For it must be remembered that we are examining the state of the atmosphere during that part of the year when, in all health resorts, the degree of humidity is highest. At Davos, during the month I was there, the average was 63.7, and during January it was



only 65,\* while at Torquay it was 84.765, between the 10th of November and the 12th of December; notwithstanding that the former had four days of saturation, while the latter had only one. The air inhaled is, therefore, singularly dry, but not so dry as to be irritating. Further, this diminished moisture prevents the cold air being felt as it otherwise would be. It will be within the experience of all that a low temperature on a thoroughly clear dry day is much less likely to give rise to chill, to produce all the unpleasant sensations commonly ascribed to a cold day, than is a temperature several degrees higher on a day that is damp and foggy. To this dry state of the atmosphere may, I think, in a large measure be ascribed the impunity with which delicate people, who, at home, would be carefully confined within four walls, are able to sit in the open air, walk and drive for several hours a day at Davos.

There is, however, another, and that a very important feature of the climate, one which I think conduces greatly to its salubrity, viz., the stillness of the atmosphere. The force of the wind was not observed by my friend, Mr. Gunnery, during my visit, but in his record published in the *Lancet*, this is taken into consideration. The force of the wind being estimated on a scale of from 0 to 12, during the 31 days of January it averaged only 1.6. Hence exercise is more easily taken, the coldness of the air has less influence.

We have then at Davos, a still, dry, cold atmosphere, with a low atmospheric pressure. These most important elements, while in themselves conducive to the disintegration and absorption of infiltration into parenchymatous textures, further promote the "renewal of life," by stimu-

\* See Mr. Reginald Gunnery's observations published in the *Lancet*, Feb. 15, 1879. These are very complete, and well worthy of careful study.



lating the appetite, promoting rapid and healthy metamorphosis, enabling an invalid to avoid close and overheated rooms, and to spend the greater portion of his time in the open air.

It is not, be it remarked, the high altitude alone that is curative, but it is this combined with unusual atmospheric dryness, and, from the sheltered position of the valley, the great stillness of the air that together render Davos, a place exceptionally appropriate for the cure of some forms of disease.

Dr. Allbutt ascribes the curative character of the Davos climate to its antiseptic properties. "Germs" cannot live at so great an altitude. Test infusions will remain free from germs for weeks and months together at Davos. Meat hung up dries but does not putrefy. Regarding a cavity as an ulcer, incurable because it cannot be dressed with an antiseptic lotion, Dr. Allbutt thinks that at Davos the bacteria proper to ulcerating surfaces and abscesses cannot live; cannot multiply; and argues that the supply of infective material (bacteria) being checked, disease is cured.

But cavities, tubercular-pus-discharging cavities, recover much less frequently, and when they recover, do so much more slowly and much less perfectly, than simple infiltrations without any cavity at all. Dr. Allbutt's theory of *phthisis pulmonalis*, appears to me to exclude constitutional predisposition far more than the histories of the major proportion of phthysical patients would warrant; it ignores the existence, or at any rate the special consequences of the tuberculous or scrofulous diathesis far more than the evidence he adduces in support of his views, seems to me to justify.

True enough, we have a local lesion to deal with, but what is of greater moment still, we have in *phthisis pulmonalis tuberculosa* a constitutional, a diathetic condition, far

more difficult to meet. A pneumonic abscess in a previously healthy subject—how different is it to the cavity of tuberculous phthisis! In both instances we have destruction of lung texture, and a suppurating surface—bacteria there may be in both—but the one patient recovers, and the other dies. The difference in these two cases is simply the difference in the constitutional condition of each. In the one the infiltration is determined to simple pus, in the other to tubercular pus.

The *rationale* of the curative influence of such a climatic state as that prevailing at Davos appears to me to be, that while rendering respiration more easy and more complete, the patient is enabled, without incurring the risk of pulmonary congestions and exudations, to remain in the open air so large a proportion of his time, conditions under which nutrition is more perfect and the absorbents also act more rapidly. In a word, morbid products are removed and animal vigour is increased.

The accommodation provided for visitors is good, but in some points susceptible of improvement. English people resort chiefly to the Belvedere, the Hôtel Buol, and the New Belvedere; there were also a good many last season at the Hôtel Rhatia, a few at the Kur-haus, and two or three at the Seehof at Davos-Dörfli, a hamlet about a mile to the north of Davos am Platz. The first of these was that at which I stayed, and nothing could exceed the attention and courtesy of the proprietor, Herr Coester. With two exceptions the visitors were all English. The chaplain resides at the Belvedere, and there the service of the English Church is performed twice every Sunday. A site has been obtained for the erection of a church, and as soon as the necessary funds have been secured, it will be forthwith proceeded with. With regard to this, I may mention *en passant*, that the Roman Catholics have set a

noble example to English Churchmen. The only son of a French gentleman residing in Normandy, who was said by his physicians to be decidedly phthisical, was sent to Davos. There he had been two winters, when he was completely cured. His father, in token of gratitude for his son's recovery, has, at his sole expense, built a chapel for the worship of God according to the rites of the church to which he belongs, and I believe he also pays the priest who officiates there.

To revert to the hotels. The rooms are all warm, comfortable, and of a fair size. The chief difficulty was with the ventilation. The stove is the source of heat, and the want of a chimney to carry off the foul air of a heated room, having double windows, with several people remaining in it for some time, was much felt. The same defect is met with in every hotel in Davos. Herr Coester is, I believe, in correspondence with a London firm to remedy it by means of Tobin's system, or an improvement upon it. The advantages of the adoption of so admirable a method of securing a constant current of fresh air, will be very great. The drainage of the Belvedere was, so far as my experience went, admirable. At some of the German hotels both ventilation and drainage were decidedly bad. From enquiries I made of visitors at Buol and at the New Belvedere, I have every reason to believe that they are as well provided for in the matter of drainage as is Herr Coester's House.

The "pension," or boarding-house system prevails at each hotel. Breakfast is at any hour from 8 o'clock until 10, luncheon at half-past 1, and dinner at half-past 6. The variety of food is considerable, and the cooking good, while the appetite provoked by the bracing air of Davos enables a visitor to do ample justice to the provision made for him. However good the pension system may be for a

person in ordinary health, it is not adapted for an invalid with the weak digestion of phthisis. It was, indeed, a matter of frequent surprise to me that the patients by whom I was surrounded were able to do so well, with so much rich and varied food. It is true that simple dishes are prepared according to order for invalids, but for these extra charges are made, the result of which is that a person has to pay for a dinner he cannot eat, and also for one that is within the scope of his digestive powers. It would be conducive to the comfort and good humour of the sick if some arrangement were made which, while obviating this rather frequent source of discontent, would also induce them to restrict themselves to articles of diet more suitable to their health than the productions of an accomplished *chef de cuisine*.

Having now given some account of the climate and accommodation at Davos, I will endeavour to point out the kind of cases that may be sent there with advantage, those for whom it does not offer a suitable climate, and such indications as seem to militate against the probability of its being useful in patients for whom it might otherwise be well adapted.

That cases of phthisis recover at Davos has long since been placed beyond dispute, but that all cases of phthisis do well there experience has not proved; while it is equally probable that not a few would derive greater advantage in a totally different atmosphere. No cases seemed to me to be so much benefited as those where catarrhal pneumonia or pulmonary congestion had been extensive and protracted, leaving behind a greater or less amount of infiltration into the alveoli, and condensation of lung texture, with loss of weight and emaciation. These are the cases that tend to terminate in pneumonic-phthisis. They improve rapidly, and after a few months' residence at

Davos, the physical signs vanish, cough disappears, weight increases, and strength is regained. I saw several such patients during my visit, and nothing, I think, is more likely to promote the thorough cure of a serious catarrhal pneumonia, to render improbable the formation of a cavity, and to prevent any future delicacy of lung texture, than to send a partial convalescent from such a condition to Davos for the winter. Again, cases where indications of tubercular deposit have existed for a considerable time without having made any rapid advance, or produced much emaciation—these do well at Davos. Small non-tubercular cavities have been known to heal there.

Where, however, the cavity is large, the temperature high, emaciation considerable, and especially when the patient is irritable and restless, Davos is distinctly contra-indicated. With rare exceptions, patients sent in this condition have either died or have left without benefit, although they may have been able to live somewhat more freely during the short remainder of their lease of life than they would have been elsewhere. Hæmoptysis is not, as is commonly supposed, a reason for restraining a patient from Davos. On the contrary, its occurrence there is decidedly infrequent. The fact that a high altitude, so far from increasing a liability to hæmorrhage, diminishes it, first insisted on by Dr. Archibald Smith, after long years of experience in the treatment of phthisis in the mountains of Peru,\* has received abundant confirmation from the experience of physicians at Davos. In fact, congestion rarely occurs in the lung when the power of resistance to atmospheric changes is so largely increased as it is in a well-sheltered valley several thousand feet above the sea-level.

\* *Edinburgh Medical and Surgical Journal*, 1840.



Any valvular disease of the heart, or any dilatation of that organ, is a decided obstacle to visiting Davos. The action of the heart is inevitably much increased, and the organ itself becomes irritable. Nothing could well be more undesirable than that a patient with organic disease of the heart should be sent there.

Persons of a highly nervous, excitable temperament, do not do well at Davos; neither is it a suitable locality in which a case of "brain-fag" should take his needed rest. The action of *föhn* upon such cases is especially severe, and very ill-borne.

Though the influence of Davos has been most pronounced in cases of phthisis, it is yet resorted to largely, and with much benefit, by convalescents from fever and acute organic disease. In these, however, the condition still holds good that the heart, brain, and spinal cord must be in a quiescent and practically normal state to enable the patient to derive advantage from his visit.

The chief point to be guarded against at Davos is taking cold. Were invalids to live there as carefully as they would do at home, it is scarcely too much to say that catarrh would be unknown. But they do nothing of the kind. They are out all day, in every kind of weather, and even indulge not unfrequently in a walk to Davos lake by moonlight! Nothing, in short, stops them, except *föhn*. To see a party of Davos invalids at dinner, no one would be surprised at such temerity—all look so well, and are so actively employed! But with suitable precautions, a great deal of time may be spent out of doors without the least risk. The body should be warmly clad—flannel ought to be worn next the skin both of the trunk and the limbs. Boots should be made of good strength and well oiled; while on every return from a walk in the snow, boots and stockings ought to be changed at once, and the feet and legs well rubbed with a rough towel. For men the "Davos



boot" is admirable, and ensures a large amount of protection. For practical hints on this and several similar points, together with a large amount of interesting matter regarding the history, natural resources, and excursions of the locality, I cannot do better than refer my readers to a little book entitled *Davos-Platz ; a New Alpine Resort for Sick and Sound in Summer and Winter, by One Who Knows It Well*, published by Stanford, of Charing Cross. The authoress is fully entitled to the *nom de plume* she has taken, having, I believe, spent five winters at Davos. She came as a thorough invalid, and is now as well as most and much better than many people.

A patient going to Davos should be provided with a supply of aconite. That, taken when the first chill is felt, and persevered with, would, I am sure, speedily check any Davos catarrh, and prevent the congestion that would otherwise arise. Arsenic is another remedy that struck me as well indicated in the exhaustion and depression caused by *föhn*. This will pass away without medicinal help in most cases, but in some great weakness and nerve irritability remains, and for such I think arsenic would be useful. The physicians at Davos have one and all a great repugnance to the use of drugs. A very wholesome feeling, it is true, when the only mode of using drugs known is that which entails the prescription of large doses of powerfully acting substances for the purpose of exciting their physiological action. But were remedies used specifically, and in appropriate doses, much more good would be done than is otherwise possible.

The only physician at Davos who speaks English with any degree of fluency is Dr. Ruedi ; he devotes himself most earnestly to the care of the patients entrusted to him, and is well worthy of their confidence and of that of his professional brethren in England. Medical attendance at Davos is remunerated—if such a word can be used re-

garding it—by a fee of thirty francs a month! For this ridiculous sum, a patient expects to be seen every day for a while, then two or three times a week, and, indeed, whenever he thinks he requires the doctor's visit! This is the fee which represents Swiss and German notions of indebtedness to a physician! I trust, however, that English people do not leave without showing that they do not take so low a view of their obligations, or place so indifferent an estimate on the value of the medical services they receive.

A patient, on leaving Davos at the end of March, which is necessary in order to avoid the rapid and heavy thaws which then commence, is usually advised to go either to the Lake of Geneva or to Baden-Baden, before returning to England. Some such stepping-stone homewards is certainly needful. The change is indeed great, greater than anyone who has not experienced it would imagine. The susceptibility to cold would seem to be greatly increased by a long stay in that pure quiet air, while the sources of chill abound in England during April and early May. The weather generally is damp and often cold, while east wind is felt at every corner. To bring a convalescent from lung disease home at such a time is almost certain to induce catarrh, and so to ensure a recurrence of disease under very unfavourable circumstances.

During the few weeks I have recently spent at Malvern I have been very much struck by the lightness and clearness of the atmosphere, and have thought that, though it would be unwise to go to Malvern direct from Davos, yet the period of expatriation might be shortened by a visit there in the second or third week of April. London or the immediate neighbourhood, and anywhere on the south or east coast, would be decidedly injurious, but Malvern seems to me to be a locality where, with care, a Davos

convalescent might spend the first month of his return home with safety, and indeed advantage. The following tables have been kindly placed at my service by Mr. Woods (of Messrs. Burrows, Opticians, Malvern), by whom the observations were taken. They give the averages for each month named. Since 1870 Mr. Woods has ceased to record his observations :—

|         | Barom. | Humidity | Therm.<br>Max.<br>in Shade | Therm.<br>Min.<br>in Shade. | Therm.<br>Max.<br>in Sun. | Rainfall.<br>Inches. | Ozone. |
|---------|--------|----------|----------------------------|-----------------------------|---------------------------|----------------------|--------|
| 1867.   |        |          |                            |                             |                           |                      |        |
| April - | 29.307 | 78.0     | 55.7                       | 42.8                        | 85.0                      | 2.81                 | 4.0    |
| May -   | 29.480 | 72.0     | 62.1                       | 41.6                        | 99.8                      | 3.03                 | 4.8    |
| 1868.   |        |          |                            |                             |                           |                      |        |
| April - | 29.499 | 69.0     | 57.3                       | 40.3                        | 94.0                      | 2.23                 | 4.8    |
| May -   | 29.560 | 65.0     | 67.5                       | 46.5                        | 108.0                     | 2.31                 | 5.5    |
| 1869.   |        |          |                            |                             |                           |                      |        |
| April - | 29.549 | 77.0     | 59.5                       | 42.1                        | 90.3                      | 1.62                 | 4.4    |
| May -   | 29.337 | 79.0     | 58.5                       | 42.7                        | 97.0                      | 5.90                 | 4.0    |
| 1870.   |        |          |                            |                             |                           |                      |        |
| April - | 29.708 | 65.0     | 60.2                       | 40.6                        | 107.2                     | 0.63                 | 5.1    |
| May -   | 29.615 | 54.0     | 65.1                       | 43.9                        | 133.2                     | 1.22                 | 5.8    |

These tables show a low humidity for an English climate, with a temperature well adapted to the wants of the invalid, and a good supply of ozone in the atmosphere. These facts, together with that very important one that, in the matter of drainage, water-supply, and hotel, boarding, and lodging-house accommodation, Malvern is infinitely superior to any continental town, induce me to suggest it as a suitable halting-place for the convalescent from Davos before returning to his usual home.

One more suggestion I would offer to the invalid preparing for Davos, is that he or she should have a *compagnon de voyage*. The resources of the place in the way of

amusement are of the most limited character ; and, though great sympathy and kindness are met with by a solitary invalid from all around him, still the attention of a relative or intimate friend is oftentimes a source of the greatest comfort, and tends much to relieve the inevitable tedium of a sojourn in a mountain valley so far removed from ordinary sources of interest. Such companionship too, is, I am certain, largely conducive to recovery, and diminishes the home-sickness which is inseparable from an eight or ten months' expatriation and isolation from the world.

2, Finsbury Circus,

*March, 1879.*